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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,464	01/26/2001	Thomas Thoroe Scherb	P20417	5460

7055 7590 08/14/2003

GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

HUG, ERIC J

ART UNIT PAPER NUMBER

1731

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/769,464

Applicant()

SCHERB ET AL.

Examiner

Eric Hug

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-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

The following is in response to the remarks filed on May 15, 2003.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-4, 6-8, 11, 15-17, and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hay et al (US 6,237,644) in view of the Albany reference and Kamps et al (US 6,203,663). Hay discloses a fabric for use in a paper making apparatus to make patterned paper such as tissue. The fabrics can be used as a forming fabric, transfer fabric, or a TAD dryer fabric. The fabric has zones of different permeability, note the lattice pattern of the weave. Hay teaches or suggests the claimed machine and method, except there is no explicit recognition that the dimensions of the zones in the fabric have a length or a width of less than 5 millimeters. However, it is deemed that this dimension is inherently encompassed by the teachings of the weave pattern. Particular attention is given here to Figure 3. The unshaded diamond-shaped area 30 includes eight warp yarns woven over eight weft yarns. This is the largest of the zones (i.e. area 30 is of larger dimension than the shaded regions). Thus at most, the width and length of this area is about eight thread diameters.

Without any specific disclosure of the thread diameter in Hay, the Albany reference is provided to disclose a typical range of common diameters for threads in a forming fabric. On page 14, a common range of 2-24 mils (0.002-0.024 inches) is given, which is equivalent to about 0.05-0.60 mm. It is a reasonable assumption that the fabric of Hays uses conventionally

sized warp and weft threads, and there is no reason to expect the size of the threads to be much different than those disclosed by the Albany reference. If one chooses a thread diameter of 0.60 mm, corresponding to the largest thread size disclosed by the Albany reference, then eight threads side-by-side would measure 4.80 mm, which even for allowing for some spacing would read on the claimed dimension of 5 mm. Using a smaller diameter thread would provide a dimension far less than 5 mm. Therefore, the fabric of Hay has at least two zones of different permeability, each having at least one dimension less than 5 mm.

Kamps, if necessary, discloses a conventional twin wire machine for making tissue that utilizes an impression forming fabric for imparting a design onto the web as it forms. This twin wire machine is an well-known configuration for making tissue, and would obviously be configured for using the fabric of Hay in the manner disclosed.

2. Claims 1-4, 6-8, 11, 15-17, and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swedish Patent 427 053 (SE '053) in view of the Albany reference and Kamps. SE '053 discloses a forming wire for a paper machine that produces patterned sheets. The wire has systematic regions of the same size having different permeabilities. The fabric can be used in a twin wire former. SE '053 teaches the machine and method of the present invention, except there is no explicit recognition that the dimensions of the zones have a length or a width of less than 5 millimeters. However, it is deemed that this dimension is inherently encompassed by the teachings of the weave pattern. Each systematic region, termed a "hill" or a "valley", are formed from three warp and three weft wires, therefore the width and length of these areas are about three thread diameters.

Without any specific disclosure of the thread diameter in SE '053, the Albany reference is provided to disclose a typical range of common diameters for threads in a forming fabric. On page 14, a common range of 2-24 mils (0.002-0.024 inches) is given, which is equivalent to about 0.05-0.60 mm. It is a reasonable assumption that the fabric of SE '053 uses conventionally sized warp and weft threads, and there is no reason to expect the size of the threads to be much different than those disclosed by the Albany reference. If one chooses a thread diameter of 0.60 mm, corresponding to the largest thread size disclosed by the Albany reference, then three threads side-by-side would measure 1.80 mm, which even for allowing for ample spacing would read on the claimed dimension of 5 mm. Therefore, the fabric of SE '053 has at least two zones of different permeability, each having at least one dimension less than 5 mm.

Kamps, if necessary, discloses a conventional twin wire machine for making tissue that utilizes an impression forming fabric for imparting a design onto the web as it forms. This twin wire machine is an well-known configuration for making tissue, incorporating the features of the claims, and would obviously be configured for using the fabric of SE '053 in the manner disclosed.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hay or SE '053 in view of the Albany reference and Kamps as applied to claim 1 above, and further in view of Kotitschke. Kotitschke exemplifies the known conventional feature of a conditioning device/wire cleaning device for wire in a twin wire former. To provide conditioning and cleaning of a forming wire in a twin wire paper making machine would have been obvious to one skilled in the art for removing fibers adhered to the forming wire as it circulates.

4. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hay or SE '053 in view of the Albany reference and Kamps as applied to claim 11 above, and further in view of Eaton et al (US 5,225,042). Kamps and Eaton exemplify that machine speeds at the recited ranges are known. Thus to operate a paper making machine at such speeds would have been obvious to one skilled in the art for the known economic advantages of providing a faster rate of output. See column 11, line 36 of Kamps and column 5, lines 52-55 of Eaton, where commercial production speeds are taught by the references.

5. Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hay or SE '053 in view of the Albany reference and Kamps as applied to claims 1 and 11 above, and further in view of Turunen et al (US 4,144,124). Turunen teaches at column 1, lines 14-16 that in a twin wire paper machine the endless fabrics may take the form of either a wire or a felt. Thus to use two wire and have a double wire former as set forth by the claims would have been obvious to one of ordinary skill in the art, as two wires provide for uniform dewatering on both sides leading to uniform sheet appearance.

Response to Arguments

The following arguments submitted in response to the previous office action are felt to be applicable to some of the above rejections and are addressed accordingly.

Applicants submitted that no proper combination of Hay or SE '053 or in view of the Albany reference teaches or suggests at least the above-noted features of the instant invention, namely Applicants' independent claim 1 recites, *inter alia*, a forming region with at least one circulating, continuous dewatering wire, wherein said dewatering wire comprises at least two zones having different wire permeabilities formed by warp and weft threads and each at least two zones has at least one dimension of length and width less than 5 mm. Applicants' independent claim 11 recites, *inter alia*, forming the tissue web in a forming region of the tissue machine on at least one circulating, continuous dewatering wire comprising at least two zones having different wire permeabilities formed by warp and weft threads, in which each at least two zones has at least one dimension of length and width of less than 5 mm.

In response to Applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Albany reference provides evidence of well-known thread dimensions in a woven forming fabric. The Examiner has cited these dimensions to show that the forming fabrics of Hay and SE '053 have two zones, each with at least one dimension less than 5 mm when constructed with threads of conventional size.

Applicants also submitted that although the forming fabrics of Hay and SE '053 are woven in the desired manner to produce the zones of different wire permeability, both these documents expressly disclose that these wires are specifically intended as embossing fabrics, i.e., fabrics structured to make an imprint in the forming web surface that results in an aesthetically pleasing finished product. The Examiner acknowledges that the fabrics of Hay and SE '053 are structured to imprint upon a formed web. However, the fabrics are indeed forming fabrics. Both Hay and SE '053 say this explicitly and repeatedly. Though Hay provides examples where the fabric is used as an embossing fabric in a through-air-dryer, this does not preclude using the fabric as a forming wire in the forming section of a paper making machine. It is the Examiner's conclusion that the fabrics are designed as forming wires upon which the web is simultaneously formed and imprinted.

Applicants also submitted that wire of the instant invention is provided with small, systematically arranged areas with different wire permeabilities that, when utilized in accordance with the invention, produce a web with constant properties, i.e., uniform properties over the entire web, with regard to the web's usability, i.e., bulk, handfeel, etc. Moreover, as the areas of different permeability in at least one dewatering wire with zonally different wire permeabilities are small, a nearly homogeneous web is formed, not the patterned or textured web formed by Hay or SE '053.

In response to this argument, it is noted that the features upon which applicant relies (i.e., an unpatterned surface) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the

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claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). If Applicants wish to define the present invention over the prior art in view of having no visual pattern or imprint on the surface, then it is recommended that this be written into the independent claims based on language used in the specification.

All other rejections set forth previously have been withdrawn in view of Applicants' arguments and in view of the rejections set forth above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ramasubramanian et al (US 5,211,815) discloses a papermaking forming fabric which has regions of pockets that promote dewatering.

Chiu et al (US 4,967,805) discloses a forming fabric having varying widths of drainage channels.

Waldvogel et al (US 4,759,391) discloses a tissue forming fabric comprising regions of depressions having different porosity.

New grounds of rejection have been presented, therefore this action is non-final.

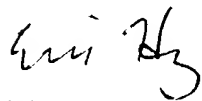
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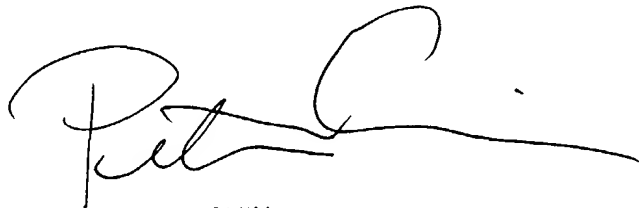
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 703 308-1980. The examiner can normally be reached on Monday through Friday, 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0651.



jeh
August 4, 2003



PETER CHIN
PRIMARY EXAMINER